

DaimlerChrysler AG

Patent claims

- 5 1. An information output system of a vehicle having
- means (3) for sensing the driving state and/or the state of the surroundings of the vehicle,
  - means (4) for the outputting of information using at least two sensory channels,
  - 10 - an evaluation and control unit (2) for
    - o processing and evaluating the collected data, and
    - o for actuating the means (4) for the outputting of information as a function of
    - 15 the data evaluation,
    - o wherein at least one of the at least two sensory channels can be selected for the outputting of information,
- characterized in that
- 20 - the evaluation and control unit (2) evaluates the collected data to determine,
    - o whether a collision with the outputting of a second information item occurs with the sensory channel selected for outputting a
    - 25 first information item, and
    - o when a collision is detected changes over the sensory channel to outputting the first or the second information item, or
    - o when the first and the second information
    - 30 item is output using the same sensory channel the time required for outputting the first and second information items is determined and the outputting of the information item with the longer time requirement is delayed
    - 35 compared to the outputting of the information item with the shorter time requirement, in which case if the time requirements are the

same the information item with a higher priority is output first.

2. The information output system as claimed in  
5 claim 1, characterized in that the changeover of the sensory channel for the outputting of information can be indicated to the driver visually and/or audibly and/or haptically and/or olfactorily.

10 3. The information output system as claimed in claim 1 or 2, characterized in that the preferred sensory channel for the outputting of information from a vehicle subsystem (3.1, 3.2, 3.3, 3.4) can be preset by the driver and/or by the manufacturer.

15 4. The information output system as claimed in claim 3, characterized in that, in order to output the first information item, the evaluation and control unit (2) selects the preferred sensory channel for  
20 outputting this information item if during the collision evaluation no collision with other information outputs is detected.

5. The information output system as claimed in  
25 claims 1 to 5, characterized in that the evaluation and control unit (2) determines, from the collected data, load states of the driver with respect to the at least two sensory channels and selects at least one sensory channel for the outputting of information, as a  
30 function of the determined load.

6. The information output system as claimed in one of  
claims 3 to 5, characterized in that, after the collision or the load has been eliminated, the  
35 evaluation and control unit (2) resets the preferred sensory channel for the outputting of future information from the associated vehicle subsystem (3.1, 3.2, 3.3, 3.4).

7. The information output system as claimed in one of claims 1 to 6, characterized in that the first information item which is to be output is from a navigation system (3.1) which, with respect to the outputting of information, is moved forward in terms of timing or delayed compared to second information items to be output by other vehicle systems (3.2, 3.3, 3.4).

8. The information output system as claimed in claim 7, characterized in that the navigation information is output with a delay compared to fault messages and is output brought forward in terms of timing compared to an incoming telephone call.

9. The information output system as claimed in claim 7 or 8, characterized in that the evaluation and control unit (2) continuously evaluates the information from the navigation system in order to adapt it to the change in the timing of the outputting process.

10. The information output system in a vehicle having the steps:

- sensing of the driving state and/or state of the surroundings of the vehicle,
- processing and evaluation of the collected data,
- selection of at least one sensory channel as a function of the evaluation of the data, and
- outputting of information about the selected sensory channel,

characterized in that

- the collected data is evaluated to determine whether a collision with the outputting of a second information item occurs with the sensory channel selected for outputting a first information item, and

- when a collision is detected changes over the sensory channel to outputting the first or the second information item, or
  - when the first and the second information item is output using the same sensory channel the time required for outputting the first and second information items is determined and the outputting of the information item with the longer time requirement is delayed compared to the outputting of the information item with the shorter time requirement, in which case if the time requirements are the same the information item with a higher priority is output first.
11. The information output system as claimed in claim 10, characterized in that, in order to select the sensory channel for the outputting of information from the collected data, load states of the vehicle with respect to the sensory channels are determined, wherein the sensory channel with the smallest load state is selected for the outputting of information.
12. The information output system as claimed in claim 10 or 11, characterized in that the change of the sensory channel for outputting information is indicated to the driver visually and/or audibly and/or haptically and/or olfactorily.